



UNITED STATES PATENT AND TRADEMARK OFFICE

46
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,876	10/14/2005	Hiroshi Yoshimine	0230-0224PUS1	2285
2292 7590 05/18/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER ROSENAU, DEREK JOHN	
			ART UNIT 2834	PAPER NUMBER
			NOTIFICATION DATE 05/18/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/532,876	Applicant(s) YOSHIMINE ET AL.	
	Examiner Derek J. Rosenau	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 5 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimine et al. (WO 02/47246) in view of Yoshiuchi et al. (US 6748807).
3. With respect to claim 1, Yoshimine et al. discloses a method for preventing signal coupling between two or more flow-through type chip-based mounted piezoelectric sensors (page 26, lines 7-20) used in an electrically conductive liquid (page 32, lines 1-7), wherein each of the sensors has a flowcell body (Fig 6) provided with its own resonator (item S) connected to its own single oscillator circuit (item 13) and its own single power supply (page 25, lines 15-19), said resonator being on a single substrate (item 1), comprising: providing each sensor with its own, individual conducting shield which substantially surrounds said flowcell body (page 26, lines 7-20), and making an inner wall of a flow tube and each cavity out of a non-conducting material (page 28, lines 9-14). While not explicitly stated, the inner wall of the cavity must be made of a non-conducting material; otherwise, a short circuit could form between the inner wall of the cavity and the sensor through the conducting fluid.

Yoshimine et al. does not disclose expressly that said conducting shield is connected to one pole of the power supply.

Yoshiuchi teaches a piezoelectric resonator sensor including a conducting shield (items 8 and 17), the conducting shield being connected to one pole, the grounding terminal, of the power supply (column 6, lines 4-7).

At the time of invention, it would have been obvious to combine the grounded shield of Yoshiuchi et al. with the piezoelectric sensor of Yoshimine et al. for the benefit of reducing the buildup of electrostatic charge in the conductive shield (column 6, lines 13-16).

4. With respect to claim 3, the combination of Yoshimine et al. and Yoshiuchi et al. discloses the method in accordance with claim 1. Yoshimine et al. discloses that the flowcell body is made of a non-conducting material (page 14, lines 20-22).

5. With respect to claim 5, Yoshimine et al. discloses a piezoelectric resonator sensor (Fig 6) comprising: a body comprising a resonator (item S) connected to a single oscillator circuit (item 13); and a single power supply (page 25, lines 15-19) wherein said body is substantially surrounded by a conducting shield (page 26, lines 7-20), wherein an inner wall of a cavity, inlet channel and an outlet channel are insulated from said shield (page 28, lines 9-14). While not explicitly stated, the inner wall of the cavity must be made of a non-conducting material; otherwise, a short circuit could form between the inner wall of the cavity and the sensor through the conducting fluid. Therefore, the inner wall of the cavity would be insulated from the shield.

Yoshimine et al. does not disclose expressly that said conducting shield is connected to one pole of the power supply.

Yoshiuchi teaches a piezoelectric resonator sensor including a conducting shield (items 8 and 17), the conducting shield being connected to one pole, the ground terminal, of the power supply (column 6, lines 4-7).

At the time of invention, it would have been obvious to combine the grounded shield of Yoshiuchi et al. with the piezoelectric sensor of Yoshimine et al. for the benefit of reducing the buildup of electrostatic charge in the conductive shield (column 6, lines 13-16).

6. With respect to claim 8, the combination of Yoshimine et al. and Yoshiuchi et al. discloses the sensor in accordance with claim 5. Yoshimine et al. discloses that the body is made of a non-conducting material (page 14, lines 20-22).

Response to Arguments

7. Applicant's arguments filed 2/22/2007 have been fully considered but they are not persuasive. Applicant argues that the shield of Yoshiuchi et al. is grounded, and not connected to one pole of the power supply. However, as can be seen at column 6, lines 4-9, the shield electrode is connected to ground terminals 16c and 16d, the ground terminals being one of the poles of the power supply.

8. In response to applicant's argument that Yoshiuchi et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Yoshiuchi et al. is in the field of applicant's endeavor, as it is directed to a quartz oscillator sensor device. Yoshiuchi et al. is also pertinent to the problem with which the applicant was concerned, as it teaches a shield electrode for preventing interference in a quartz oscillator sensor device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek J. Rosenau whose telephone number is 571-272-8932. The examiner can normally be reached on Monday thru Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Derek J Rosenau
Examiner
Art Unit 2834

DJR
5/3/2007


DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800